

**APPENDIX III
FIVE-YEAR PLAN
CATEGORY OBJECTIVES DESCRIPTIONS**

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1. AGRICULTURE CATEGORY OBJECTIVES

- a) More efficiently use existing resources by continuing to improve upon and expand current interagency coordination in order to more effectively manage agricultural pollution (including monitoring and enforcement mechanisms).**

Due to the fact that the State of California is in a severe budget crisis, it is more critical than ever to make the most of our resources. In order to do this, efforts related to NPS should be coordinated in order to avoid duplication and to ensure that resources (including staff time) are being applied appropriately. Although extensive interagency coordination to address NPS pollution is occurring, there is still a need to bring in more of the State agencies as well as Federal and Local agencies. A majority of the activities in the Agriculture category involve multiple agencies, but there is still room for increased coordination. As new problems and solutions arise, new coordination needs to be developed.

This objective can be accomplished through a variety of activities listed by the SWRCB, RWQCBs and other State agencies as listed in the Table IIB. Examples include;

- Participation in Technical Advisory Committees in order to develop effective strategies for addressing NPS problems.
- Reviewing proposals and supporting proposals that will provide the greatest benefit for the cost of the work being done.
- Coordinating with other agencies to distribute outreach and education materials in order to reach a wider audience and to minimize costs.
- Continued funding of the RCD watershed coordinator grant program

This objective relates to NPS Program Goal #3 "Coordinate with public and private partners in all aspects of the Program", and 5-Year Plan Objectives #1 and #4 which are "Promote the implementation of MMs and related practices by all levels of water quality managers (federal, State, watershed groups and other stakeholders)" and "Promote better leverage of inter-agency and private entity resources for NPS Programs".

- b) Develop information on the overall effectiveness of MP implementation on improving water quality.**

In order to gain a greater understanding of the overall effect the NPS program is having on water quality, it is important to understand the capabilities of individual MP's for reducing NPS pollution. This understanding will result in a more appropriate expenditure of resources to address problems by utilizing on the most appropriate MP. This knowledge will also be utilized in the development of TMDL implementation plans for NPS TMDLs. It will also help landowners make decisions on appropriate MPs to put in place. Over the next five years there are several projects planned that will address this objective. For example;

- CDPR will be doing a study to evaluate the effectiveness of vegetated buffer strips and post-application tillage as means to reduce pesticide runoff.
- The Central Coast RWQCB will be performing inspections of grazing areas and irrigated croplands to look at the effectiveness of the implementation of various MPs.

This objective relates to NPS Program Goal #1 "Track, monitor, assess and report Program Activities" and 5-Year Plan Objectives #2 and #3 which are "Preserve water quality in water bodies that are currently meeting California water quality standards and protect them from future degradation from the impacts of nonpoint source pollution" and "Promote the

implementation of MMs and the use of MPs for the NPS component of TMDLs or in 303(d) listed waterbodies”.

c) Develop and implement TMDLs for waterbodies impaired by agricultural sources.

Once a waterbody is listed as “impaired”, a TMDL must be developed and implemented for that waterbody. Over the next five years, TMDLs will be developed and implemented in every Region of the state for a variety of pollutants from agriculture runoff (i.e. sediment, nutrients, pesticides, metals, etc.). A TMDL is considered to be “fully implemented”, water quality objectives are attained and the Beneficial Uses are restored. It can take several years before the TMDL is fully implemented, but having a TMDL in place is the critical first step for restoring an impaired waterbody. This objective relates to NPS Program Goals #2 and #5 which are “Target Program Activities” and Implement Management Measures” as well as 5-Year Plan objective #3 “Promote the implementation of MMs and the use of MPs for the NPS component of TMDLs or in 303(d) listed waterbodies”.

d) Continue to promote outreach and education and provide technical assistance to the agricultural community.

Prevention is the most cost effective way to deal with pollution. Although it is difficult to measure the amount of pollution prevented as a result of outreach and education, it is still considered an extremely important part of the NPS program and one of the program’s most valuable tools. There are several training workshops and certification programs as well as grant programs for Citizen Monitoring Activities included in the plan. These are just examples of activities intended to provide technical and financial assistance to stakeholders as well as increasing community awareness and involvement in improving water quality. This objective relates to NPS Program Goals # 4 and #5 which are “provide financial and technical assistance and education” and “Implement Management Measures” and 5-Year Plan Objective #4, “Promote better leverage of inter-agency and private entity resources for NPS Programs”.

e) Continue to assess waterbodies, identify sources of NPS impacts from agricultural land, and increase the number of inspections of potential sources.

In order to properly address NPS pollution problems it is important to know more about what the impacts are and what the sources are. Increased inspections will help to identify potential sources. Many of the RWQCBs have included ‘increasing inspections’ in their activities. This is critical to maintaining an awareness of where the problem areas are and if past problems have been remediated. Monitoring results from general assessments provide a greater understanding of where efforts are working and where more work still needs to be done. This objective relates to NPS Program Goal #1 “Track, monitor, assess, and report Program Activities” and 5-Year Plan Objectives #2 and #3 which are “Preserve water quality in water bodies that are currently meeting California water quality standards and protect them from future degradation from the impacts of nonpoint source pollution” and “Promote the implementation of MMs and the use of MPs for the NPS component of TMDLs or in 303(d) listed waterbodies”.

f) Develop watershed based plans and target the implementation of management measures and practices to address impacts from agricultural land uses.

Once the source of pollution is identified, a plan for addressing that source needs to be developed. Agencies and RWQCBs consult with stakeholders on the development of their plans. Although many of the watershed plans that are slated for development over the next five years will be in the form of a TMDL, this objective is intended to refer to non-TMDL watershed plans which will be developed. To name a few, watershed management plans will be developed for the Santa Maria River, the Middle Truckee River, The West Walker River, The Carmel River, and the San Joaquin River watersheds.

This objective relates to NPS Program Goals #1 and #2 which are “Track, monitor, assess, and report Program Activities” and “Target Program activities” and 5-Year Plan Objectives #2 and #3 which are to “Preserve water quality in water bodies that are currently meeting California water quality standards and protect them from future degradation from the impacts of nonpoint source pollution” and “Promote the implementation of MMs and the use of MPs for the NPS component of TMDLs or in 303(d) listed waterbodies”.

2. FORESTRY CATEGORY OBJECTIVES

a) Reduce interagency conflict regarding recommended mitigations through development of a Monitoring Agreement MOU.

There are few that would argue that the most challenging aspects of effective watershed management in California’s forested lands are resolving conflicts of interest, reconciling varying interpretations of responsibilities and utilizing a unified approach to water quality management and information sharing. This applies in particular to the monitoring aspects of ensuring water quality protection in areas of active timber harvesting. For this reason, it is a focused objective for the next five years to address this particular issue.

There are a multitude of activities listed in the 2003-2008 Five-Year Implementation Plan that are geared in part toward addressing this objective, some of which include the following:

- Interagency Coordination (see Section I)
- Forest Activities Program Consistency and Effectiveness
- Probabilistic Monitoring (Section 1)
- Collaborative Watershed and Monitoring Approaches

These two objectives also tie in to the Overall Five-Year Plan objectives #1 and #4 (see Section II), and support the NPS Program Plan Goal #3, “Coordinate with Public and Private Partners in All Aspects of the Program.” How effectively these and other activities help meet the Five-Year Plan Objectives, and the NPS Program Goals will be evaluated in the NPS Biennial Progress Reports.

b) Develop or improve upon an effective, practical, and accepted approach for directly evaluating Cumulative Watershed Effects (CWE) for Forest Management activities.

There are few that would argue that the most challenging aspects of effective watershed management in California’s forested lands are resolving conflicts of interest, reconciling varying interpretations of responsibilities and utilizing a unified approach to water quality management and information sharing. This applies in particular to the question of Cumulative Watershed Effects, and developing an understanding of the accumulation of conditions, both natural and manmade, that could be contributing to sedimentation or other detrimental water quality impacts. This is a critical issue, and for this reason, CWE evaluation is a focused objective for the next five years to address this particular issue.

There are a number of activities listed in the 2003-2008 Five-Year Implementation Plan that are geared in part toward addressing this objective, some of which include the following:

- Interagency Coordination (see Section I)
- Forest Practice Rule Review and Modification
- Water Quality Management Plan MOU and MAA changes
- Various agency Timber Harvest Plan Reviews

These two objectives also tie in to the Overall Five-Year Plan objectives #1 and #4 (see Section II), and support the NPS Program Plan Goal #3, "Coordinate with Public and Private Partners in All Aspects of the Program." How effectively these and other activities help meet the Five-Year Plan Objectives, and the NPS Program Goals will be evaluated in the NPS Biennial Progress Reports.

c) Develop or improve interagency understanding and collaboration of their respective roles and responsibilities for water quality, related to timber operations.

Another challenging aspect of effective watershed management in California's forested lands is that of resolving conflicts of interest, reconciling varying interpretations of responsibilities and utilizing a unified approach to water quality management and information sharing.

There are many of activities listed in the 2003-2008 Five-Year Implementation Plan that are geared toward addressing this objective, some of which include the following:

- Interagency Coordination (see Section I)
- Forest Activities Program Consistency and Effectiveness
- Collaborative Watershed and Monitoring Approaches
- Forest Practice Rule Review and Modification
- Water Quality Management Plan MOU and MAA changes
- Various agency Timber Harvest Plan Reviews
- Road Rule Committee

These two objectives also tie in to the Overall Five-Year Plan objectives #1 and #4 (see Section II), and support the NPS Program Plan Goal #3, "Coordinate with Public and Private Partners in All Aspects of the Program." How effectively these and other activities help meet the Five-Year Plan Objectives, and the NPS Program Goals will be evaluated in the NPS Biennial Progress Reports.

d) Develop and implement watershed-based plans, including TMDL's in order to identify and address land-use impacts including those from forestry practices.

Effective and efficient measures to protect good quality waters, to improve impaired water bodies, and to restore beneficial uses will be best achieved if they are performed according to a comprehensive watershed-based plan. In the case of impaired water bodies, this plan may take the form of a TMDL implementation plan, but the end result of effective implementation will be the goal of achieving or maintaining watershed goals expressed in the plans.

There are activities listed in the Five-Year Implementation Plan that will address this objective, including:

- Watershed Management Strategic Planning (See Section I)
- Collaborative Watershed and Monitoring Approaches
- Blackwood Creek TMDL
- Deer Creek watershed erosion & sediment control project
- State Lands Field Assessment (see Section I)
- Develop TMDLs and associated implementation plans (see Section I)

This forestry objective ties in to the Overall Five-Year Plan Objectives #2 and #3, and supports NPS Program Plan Goal #1, "Track, Monitor, Assess, and Report Program Activities, and Program Goal #2, "Target Program Activities."

e) Encourage the implementation of NPS Management Measures on all forestlands in California, including private and federal lands.

Implementation of NPS Forestry MMs is currently limited to non-federal forest lands in California. These include private forestlands, which are regulated by the State, and state forestlands, which are managed by the State. The USDA Forest Service, manages about 20 million acres of federal lands in California, about one-third of which is forested.

There are activities listed in the Five-Year Implementation Plan that will address this objective, including:

- Adoption of additional new water quality-related Forest Practice Rules
- Application of Timber Harvest Planning (THP) process on private and state forestlands
- Inspection and enforcement of water quality related Forest Practice Rules and THP prescribed mitigations
- Collaborative Watershed and Monitoring Approaches

This Forestry Objective is supportive of Overall Five-Year Plan Objective #1, and promotes NPS Program Plan Goal #3, "Coordinate with Public and Private Partners in All Aspects of the Program."

f) Provide educational opportunities for THP reviewers, foresters, pesticide regulators and other forest management parties that will address water quality and environmental protection.

The purpose of this objective is to reinforce the necessity of effective pollution prevention through education of those that can make a difference. Education and Outreach is often considered the most cost-effective method of pollution prevention, although it's direct effect on water quality is difficult to measure.

There are activities listed in the 1998-2003 Five-Year Implementation Plan that will address this objective, including:

- Tahoe Forest Stewardship Day
- Firefest
- Interagency Cross-training
- Adopt a Watershed for Tahoe/Truckee (See Section I)
- Clean Sierra Waters NPS Control Project (See Section I)
- Citizen Monitoring and Education (See Section I)

This Forestry Objective is supportive of the Overall Five-Year Plan Objectives, and promotes NPS Program Goal #4, "Provide Financial and Technical Assistance Education."

g) Continue to develop and conduct effectiveness evaluations of forestry management practices with respect to protection of water quality.

Finally, it is necessary to develop adequate measures of the effectiveness of the NPS Program, through its implementation of management practices, especially with respect to their impact on water quality.

There are activities listed in the 1998-2003 Five-Year Implementation Plan that will address this objective, including:

- THP and FPR inspection and enforcement
- SWAMP Implementation Plan (see Section I):
- Timber Company Sediment Input Evaluation

- Monitoring of FPR Implementation and Effectiveness
- Conversion technology
- Probabilistic Monitoring Pilot Project

This Forestry Objective is the fundamental support of NPS Program Goal #1 “Track, Monitor, Assess and Report Program Activities.”

3. URBAN OBJECTIVES

a. Coordinate with the SWRCB and RWQCB TMDL staff and managers to include NPS MMs in the TMDL Implementation Plans, as appropriate, and

b. Promote coordination of interagency programs that protect water quality from urban runoff pollution.

Coordination and collaboration in order to increase efficiency and decrease cost is always an important endeavor. But they have never been more important than they are now, considering the current fiscal difficulties that the State of California finds itself in. It is an appropriate time for California to take inventory of related activities, and find the means to implement NPS MMs through programs that already exist. This will be a primary focus of the IACC over the next five year period, including activities that take place in the Urban Category.

Some examples of activities that are listed in Table IVB to address these two Urban Category Objectives are as follows:

- Urban Pesticide Committee Support
- Interagency Coordinating Committee (Section I, Table IB)
- multiple TMDL implementation activities

These two objectives are supportive of Program Plans Goal #3 (Coordinate with Public and Private Partners in All Aspects of the Program and #5 (Implement MMs). It also promotes the Five-Year Plan Objectives #1 (Promote the implementation of MMs and related practices by all levels of water quality managers), and #3 (Promote implementation of MMs and use of MPs for the NPS component of TMDLs or in 303(d) listed water bodies).

c. Through the implementation of MMs, reduce the potential for contamination of surface and groundwater that results from uncontrolled or poorly-controlled urban runoff practices.

Protection of surface and groundwater quality through the complete implementation of MMs by the year 2013 is the primary goal of the NPS Program Plan. Therefore it is essential that activities in the Urban Category objectives focus on this particular goal. It is particularly true in California, where urban growth is increasing at such a rapid pace, that attention be given to the protection of waters that is currently high quality, and that appropriate planning and prevention measures be taken to ensure the beneficial uses of these waters. Similarly, ongoing protection of all waters of the State from the effects of urban land use is critical, whether or not the water bodies are already impaired.

Some examples of activities that are listed in Table IVB to address this Objective are as follows:

- Manage contract for Mercury Reduction
- Railroad Operations Pollution Prevention
- Onsite Wastewater Treatment System Standards Development

- Manage contract for Urban Stormwater Retrofit Projects

This objective is supportive of Program Plan Goal #5 (Implement MMs), which includes the commitment to implement all 61 MMs in the Program Plan by the year 2013. It also promotes Five-Year Plan Objective #2 (Preserve water quality in water bodies that are currently meeting California water quality standards and protect them from future degradation from the impacts of nonpoint source pollution).

d. Develop tools to assess the effectiveness of urban water pollution programs

There is a need to understand the connection between MM implementation and urban water pollution programs and their affect on preventing water pollution or restoring impaired water bodies. The link between urban program implementation and actual water quality improvement is critical to the understanding of the effectiveness of the NPS Program MMs, and to the planning for future program activities. This is not a straightforward relationship, and it is particularly difficult to assess the ‘prevention’ of water pollution, or to assess the effectiveness of Education Outreach programs. Yet there needs to develop a set of indicators or some other mechanism to demonstrate program effectiveness.

Some examples of activities that are listed in the Five-Year Plan to address this Objective are as follows:

- Probabilistic Monitoring (Section I)
- Evaluate on-site disposal systems for compliance with policy
- Assess Occurrences and Sources of Contamination in Castaic Lake
- Malibu Creek Watershed-wide Monitoring Plan

This objective is supportive of Program Plan Goal #1 (Track, Monitor, Assess and Report Program Activities), and of Five-Year Plan Objective #1, which includes ‘Develop a tracking mechanism(s) for MM and MP effectiveness that can be used by and shared with other agencies and the public)

e. Increase the availability of regulatory and guidance documents and/or instructional workshops to demonstrate effective urban pollution control programs and policies.

There is a necessity to build the NPS Program on a foundation of public involvement, and to continue the program through all local entities and through all stages of the NPS Program. In order to accomplish complete involvement in the NPS Program by all levels of public agencies, a certain amount of capacity-building needs to be accomplished. A part of that capacity building includes development of appropriate guidance documents and training opportunities in order to spread the knowledge base necessary to implement pollution prevention programs.

Some examples of activities that are listed in the Five-Year Plan to address this Objective are as follows:

- Urbanization and Stream Erosion Prevention Models
- Resource Efficient Landscaping
- MURP & NEMO (Model Urban Runoff Program and Nonpoint Source Education for Municipal Officials)
- Stormwater Education
- Erase the Waste

This objective is supportive of Program Plan Goal #4 (Provide Financial and Technical Assistance and Education), and Five-Year Plan Objectives #1 (Promote implementation of

MMs by all levels of water quality managers), and #4 (Promote better leverage of inter-agency and private entity resources for NPS Programs).

f. Reduce the number of uncontrolled NPS pollution sources by increasing the number of municipalities, industries and construction sites that utilize NPS MMs and/or fit under the permitted State Storm Water Program.

There are activities listed in the Five-Year Implementation Plan that will address this objective, including:

- Permit NPS Criteria Development
- Stormwater runoff Phase II unit assessment for applicability
- Beach Water Quality Task Force
- Hazardous Waste Facility Inspections

g. Support the development and implementation of watershed-based plans, including TMDLs and Storm Water Pollution Prevention Plans (SWPPPs), in order to identify and address impacts from urban land use.

Effective and efficient measures to protect good quality waters, to improve impaired water bodies, and to restore beneficial uses will be best achieved if they are performed according to a comprehensive watershed-based plan. In the case of impaired water bodies, this plan may take the form of a TMDL implementation plan, or Stormwater Pollution of achieving or maintaining watershed goals expressed in the plans.

There are activities listed in the Five-Year Implementation Plan that will address this objective, including

- multiple activities for Watershed Management Plan Development
- multiple activities for TMDL implementation plan development

This objective is supportive of Program Plan Goal #2 (Target Program Activities), and Five-Year Plan Objectives #1 (Promote the implementation by all levels of water quality managers), and #4 (Promote better leverage of inter-agency and private entity resources for NPS Programs).

4. MARINAS AND RECREATIONAL BOATING OBJECTIVES

a. Assess implementation and effectiveness of existing standards and develop and enforce standards that will decrease marina and recreational boating's contribution to nonpoint source pollution.

In 1999, a SWRCB advisory panel completed a study to determine whether marina fueling systems should be upgraded to prevent releases of MTBE and petroleum products to surface water bodies. As a result of this study two major recommendations were made. First, to address inadequate Marina Fueling Facility (MFF) material and design criteria (which contribute to ongoing fuel releases), the panel recommended a material and design standard be written specifically for marina fueling systems. Second, the panel identified inconsistent statutory and regulatory language for MFFS and recommended that aboveground and underground storage tank statutory and regulatory requirements for marinas be made consistent and specific to marina operations. SWRCB activities have been included in the NPS Plan to implement these recommendations.

The previous Five-Year Implementation Plan for 1998-2003 included SWRCB/RWQCB activities to establish minimum standards defining adequate number of pumpouts, dump stations, and/or restroom facilities for marinas. These activities have been carried over, and

include establishing regional standards, providing for the installation and maintenance of an adequate number of sewage disposal facilities, and increasing accessibility to and use of the facilities, in specified regions.

This objective is supported by activities in the following MMs: Fueling Station Design (MM 4.1F), Petroleum Control (MM 4.2D), Sewage Facilities (MM 4.1G), and Maintenance of Sewage Facilities MM 4.2F). It also supports NPS Program Goal #5 (Implement Management Measures), and the first three overall Five-Year Plan Objectives.

b. Develop educational programs, training workshops and other outreach services to increase marinas and recreational boater's pollution prevention efforts.

A boating public that understands the causes and effects of pollution is more likely to want clean water and healthy aquatic environments. If the public knows about the simple and effective ways to reduce their impact on the environment, they will usually be happy to do their part. Educational programs, training workshops and other outreach services are the most effective ways to prevent pollution in and around marinas and from recreational boating.

This objective is supported by activities in the Education and Outreach MM. Thirteen activities are listed in the Five-Year Implementation Plan for 2003-2008 that support this objective. The objective also supports NPS Goal #3 (Coordinate with public and private partners) and all of the Five-Year Plan objectives.

c. Develop systems to reward marinas for pro-active environmental-friendly activities.

It is important to recognize those marinas that have already made significant efforts to minimize the environmental impacts of their facilities through implementation of the NPS Program's management measures for this category. Recognition of existing clean marinas could help to provide models for what can be done by showing what has already been done to keep marinas and boating in California clean. The California Coastal Commission has an activity that includes promoting the formation of a Clean Marinas Recognition Program for California. This objective is supported by activities in of the Marinas and Recreational Boating MMs and addresses most of the NPS Program Plan goals and over-all objectives.

d. Assess existing environmental services and expand environmental services at marinas that are supportive of clean boating practices.

The ongoing efforts for this objective include assessing the adequacy of and providing additional services for: sewage disposal, used oil recycling, bilge pad exchange, and hazardous waste disposal. Many state agencies have listed activities and are working together to accomplish the goals of this objective, including: CIWMB, DBW, CCC, RWQCBs, and SWRCB. In addition, the Marinas and Recreational Boating Workgroup, consisting of representatives from 23 state agencies have been focusing their efforts on this objective. This objective is supported by activities in the following MMs: Sewage Facilities (MM 4.1G), Waste Management Facilities (4.1H), Liquid Material Control (MM 4.2C), and Petroleum Control (MM 4.2D). It also addresses all of the NPS Program Goals and all of the Five-Year Plan overall objectives.

e. Deveop information on the overall effectiveness of MP implementation on improving water quality.

In order to gain a greater understanding of the overall effect the NPS program is having on water quality, it is important to know what individual MP's are capable of in terms of

reducing NPS pollution. This information will result in a more appropriate expenditure of resources to address problems by focusing them on the most successful MPs. This knowledge will also be utilized in the development of TMDL implementation plans for NPS TMDLs. It will also help landowners make decisions on appropriate MPs to put in place. The activities listed in the 5-Year plan that support this objective are RWQCB activities for BMP implementation in TMDL listed (impaired) water bodies. This objective applies to all of the MMs listed for this NPS category. It also supports NPS Program Goal #1 and #1 and #3 of the Five-Year Plan overall objectives.

f. Continue to improve upon and expand existing interagency coordination to more effectively manage pollution from recreational boaters and marinas.

The NPS Program implementing agencies recognize that interagency coordination is crucial to implementation of the MMs established for this category of NPS pollution. To accommodate this need, the Marinas and Recreational Workgroup was formed, consisting of representatives from 23 state agencies who have regulatory responsibilities for marina operations. This workgroup meets bi-monthly to discuss marina issues and to coordinate activities. This objective is supported by activities in all of the MMs listed for this NPS category. It also supports NPS Program Goal #3, and the Five-Year Plan objectives #1 and #4.

g. Continue to assess waterbodies, identify sources of NPS impacts from recreational boaters and marinas and increase inspections.

In order to properly address NPS pollution problems it is important to know more about what the impacts are and what the sources are. Increased inspections and baseline water quality assessments at marinas will help to identify potential sources. There are numerous activities planned to assess marinas and surrounding water bodies to identify sources of NPS pollution from marina operations and boater activities. This is critical to maintaining an awareness of where the problem areas are and if past problems have been remediated. Monitoring results from general assessments provide a greater understanding of where efforts are working and where more work still needs to be done.

This objective supports implementation of MM 4.1C (Water Quality Assessment). It also supports NPS Program Goal #1 and the Five-Year Plan objective #2.

h. Develop and implement watershed-based plans, including TMDLs in order to identify and address impacts from recreational boaters and marinas

Effective and efficient measures to protect good quality waters, to improve impaired water bodies, and to restore beneficial uses will be best achieved if they are performed according to a comprehensive watershed-based plan. In the case of impaired water bodies, this plan may take the form of a TMDL implementation plan, but the end result of effective implementation will be the goal of achieving or maintaining watershed goals expressed in the plans. Activities listed to support this objective are primarily those listed by RWQCBs for implementation of TMDLs in areas that are or may be impacted by nonpoint source pollution from marinas or recreational boating activities. MMs supported by this objective are dependent upon the pollution source(s) that has caused the impairment for which the water body is listed. The objective supports all of the NPS Program Goals and #3 of the Five-Year Plan objectives.

i. Continue educating marina owners and operators about the programs and funds that are available to help them comply with local, state, and federal regulations.

The purpose of this objective is to reinforce the necessity of effective pollution prevention through education of those that can make a difference. Education and Outreach is often considered the most cost-effective method of pollution prevention, although it's direct effect on water quality is difficult to measure. This objective is supported by activities in the Education and Outreach MM. There are over twenty activities listed in the Five-Year Implementation Plan for 2003-2008 that support this objective. This objective is supportive of the overall five-year plan objectives and promotes NPS Program goal #4 (Provide financial and technical assistance and education).

5. HYDROMODIFICATION CATEGORY OBJECTIVES

a) Maintain and restore the physical and chemical characteristics of streams, riparian habitats, and their associated beneficial uses with consistent statewide stream protection policy.

Healthy streams and riparian areas serve many functions, including: ensuring reliable water supplies for human needs; providing habitats for fish and wildlife; conveying flood discharges, replenishing beaches with sand; and supplying enriching sediments to downstream wetlands and estuaries. These functions depend on the existence in balance of several physical and chemical characteristics, such as vegetated channel boundaries, stream valley slopes, stream channel slopes and lengths, sediment loads, sediment sizes, flow discharges, roughness of the stream channel, active channel widths and depths, and nutrient loadings and uptakes. Consistent policies to maintain and restore these stream attributes can reduce regulatory conflicts and ultimately ensure better protection of these resources.

Several activities listed in the 2003-2008 Five-Year Implementation Plan are geared toward addressing this objective, some of which are as follows:

- Stream protection and management amendments in the Basin Plan.
- Providing training on stream protection Basin Plan amendments and policy, including workshops for A Primer on Stream and River Protection for the Regulator and Program Manager.
- Developing technical assistance manual and CEQA appendix for project designs.

This objective ties in to the Overall Five-Year Plan Objective #1 (See Section I), but also supports the NPS Program Plan Goals #2, "Target Program Activities", and #3, "Coordinate with public and private partners in all aspects of the Program".

b) Develop information on MP implementation to ensure consistent requirements, implementation, and effectiveness of mitigation and restoration projects.

Most stream/river regulators and managers are not professional fluvial geomorphologists. In order to achieve consistency in requiring and implementing appropriate management practices, there needs to be a concerted effort to synthesize and make sense of the wealth of stream/river protection and restoration information available. The object is to translate a complicated field of river science into something that a relative novice can apply to regulatory and program management issues, with a California emphasis. Some activities listed in the 2003-2008 Five-Year Implementation Plan address this objective, including:

- Identifying management practices for channel maintenance activities.
- Developing technical assistance manual and CEQA appendix for project designs.

- Disseminating up-to-date technical information and providing training to Regional Board and local agency staffs on management practices to avoid impacts to riparian areas.

This objective ties in to the Overall Five-Year Plan Objective #1, and supports the NPS Program Plan Goal #4, “Provide financial and technical assistance and education”.

c) Prevent and control streambank, shoreline and beach erosion with a consistent statewide policy and watershed approach.

Streamside and shoreline developments, in-channel structures, and excessive runoff discharges can destabilize banks and shorelines and contribute to additional NPS pollution. These situations need to be confronted with a systematic approach that recognizes pollution at its source and addresses the cause of a problem rather than just its symptoms. Some activities listed in the 2003-2008 Five-Year Implementation Plan address this objective, including:

- Participating in stream floodplain planning activities.
- Developing urbanization and stream erosion prevention model.
- Issuing general Waste Discharge Requirements for low impact channel maintenance activities.

This objective ties in to the Overall Five-Year Plan Objective #1, and supports the NPS Program Plan Goals #2, “Target Program activities”, and #3, “Coordinate with public and private partners in all aspects of the Program”.

d) Promote interagency collaboration in habitat restoration projects and continue to improve upon and expand partnerships and coordination in tackling the issue of eroding streambanks and shorelines.

Interagency collaboration in habitat restoration promotes information and resource exchange, ensures the identification of projects most in need of attention, reduces regulatory conflicts, concentrates limited available resources in priority areas, and increases the efficiency in project implementation.

Some of the activities listed in the 2003-2008 Five-Year Implementation Plan that address this objective include:

- Coordinating in watershed restoration project review.
- Participating in Floodplain Management Coordinating Group.
- Providing assistance in resource assessments for the Big River State Park restoration planning efforts.
- Participating in the multi-agency Upper Yuba River Studies for restoring salmon migration.

This objective ties in to the Overall Five-Year Plan Objectives #1 and #4, and supports the NPS Program Plan Goals #3 and #4, “Coordinate with public and private partners in all aspects of the Program” and “Provide financial and technical assistance and education”.

e) Enhance outreach and promote information exchange among State agencies, local entities, and interested parties.

An effective way to protect streams and riparian areas is to make sure that all proposed developments minimize their impacts on these resources through sound site design, source control, and treatment control. In addition, through visionary and comprehensive

land use planning, developments can be steered away from riparian areas. All these efforts require partnering with state and local stakeholders in the zoning, subdivision, and permitting processes, and/or educating project proponents and regulators on the preferred management practices to reduce adverse effects. In addition, public and local government outreach allows for direct interactions between the regulators and regulated communities and, in the process, the development of a better understanding of each other. In the long run, all these efforts will not only save resources and time by ensuring regulatory consistency, they will also make the permitting process a smoother one, and enhance the likelihood of project success.

Some of the activities listed in the 2003-2008 Five-Year Implementation Plan that address this objective include:

- Disseminating up-to-date information regarding floodplain, construction and long-term maintenance costs of MPs, and setbacks.

Providing training on stream protection Basin Plan amendments and policy, including workshops for A Primer on Stream and River Protection for the Regulator and Program Manager.

- Participating in the Markleeville Creek Day to educate the community and engage volunteers in stream improvement projects.
- Incorporating public outreach and citizen monitoring into the Davies & Merrill Creeks Watershed Restoration Project.

This objective ties in to the Overall Five-Year Plan Objective #1, and supports the NPS Program Plan Goals #3, “Coordinate with public and private partners in all aspects of the Program”, and #4, “Provide financial and technical assistance and education”.

f) Continue to assess waterbodies, identify sources of NPS impacts from hydromodification activities as well as increase inspections and monitoring of mitigation and restoration efforts.

Adverse effects from certain hydromodification practices may only manifest themselves over time. Constant vigilance is needed to ensure the timely dispensation of appropriate remedies when necessary. Similarly, regular long-term monitoring and inspections are required to assure the success of any mitigation or restoration efforts.

Some of the activities listed in the 2003-2008 Five-Year Implementation Plan that address this objective include:

- Providing stream resource assessments in watershed restoration projects.
- Monitoring of success for the Bagley Valley Restoration Project.
- Monitoring Panoche Creek Revitalization Project for MP effectiveness.

This objective ties in to the Overall Five-Year Plan Objective #2, and supports the NPS Program Plan Goals #1, “Track, monitor, assess, and report Program Activities”, and #2, “Target Program activities”.

g) Develop and implement watershed-based plans, including TMDLs in order to identify and address impacts from hydromodification activities.

Watershed-based plans provide a complete picture of the lay of the land. They enable the development of systematic management approaches that recognize pollution at its source and address the cause of a problem rather than just its symptoms. These approaches acknowledge the importance of solving problems in the upper watershed first before

tackling those in the lower watershed, for those areas lower in the watershed will be once more destabilized by upstream problems if they are not first corrected.

Examples of activities listed in the 2003-2008 Five-Year Implementation Plan that address this objective include:

- Developing TMDL for mercury in Guadalupe River.
- Completing and implementing the Bear Creek TMDL.
- Completing and implementing the Pleasant Valley Reservoir TMDL.

This objective ties in to the Overall Five-Year Plan Objectives #1 and #3, and supports the NPS Program Plan Goal #2, “Target Program activities”.

h) Streamline the permitting process for hydromodification projects, including swift measures for invasive species eradication.

Streamlining the permitting process can provide good customer service as long as the environment is not compromised in the process. It can also be crucial to projects that are time-sensitive. For example, delays in issuing a permit for eradicating invasive species could mean the spread of the exotic organisms beyond control.

Examples of activities listed in the 2003-2008 Five-Year Implementation Plan that address this objective are:

- Providing technical assistance in the permit streamlining process.
- Establishing formal agreements between agencies on program-level issues.
- Collaborating with ACOE to modify and improve emergency permits.
- Developing a regional stream bank and bed permit streamlining program for Phase III of the Calleguas Creek Watershed Treatment Project.

This objective ties in to the Overall Five-Year Plan Objective #4, and supports the NPS Program Plan Goal #3, “Coordinate with public and private partners in all aspects of the Program”.

6. WETLANDS CATEGORY OBJECTIVES

a) Identify, require, and/or implement wetland protection management practices to protect wetlands from NPS pollution.

Wetlands and riparian areas reduce polluted runoff by filtering out runoff-related contaminants such as sediment, nitrogen and phosphorus. They also attenuate flows and protect downstream areas from adverse impacts such as channel scour, erosion, and temperature and chemical fluctuations. However, excessive NPS pollution can change a wetland’s hydrology, substrate, geochemistry, or species composition, and reduce its ability to filter out pollutants. This objective ties in to the Overall Five-Year Plan Objectives #1, #2 and #3 (See Section I), but also supports the NPS Program Plan Goals #2, “Target Program Activities”, and #5, “Implement Management Measures”.

Several activities listed in the 2003-2008 Five-Year Implementation Plan are geared toward addressing this objective, some of which are as follows:

- Technical assistance for project designs to avoid wetlands and riparian areas. (See Section I)
- Suisun Marsh TMDL development and implementation.
- Ensuring compliance with CEQA and Porter-Cologne Act.
- Implementation of the 401 Water Quality Certification Program.

b) Promote and assist in the study of wetland and riparian habitats at the watershed scale, and incorporate their protection into local planning processes.

Watershed-scale knowledge of wetlands and riparian habitats provides a complete picture of the lay of the land. It emphasizes the cause-and-effect relationships between pollution sources and destinations, and between specific pollutants and their downstream effects. This knowledge allows for the development of a coordinated scheme that prioritizes wetlands and riparian areas for preservation. The incorporation of this scheme into the local planning process establishes a systematic approach to regulating development for wetland and riparian area protection. This objective ties in to the Overall Five-Year Plan Objective #1, and supports the NPS Program Plan Goal #2, “Target Program Activities”.

Some activities listed in the 2003-2008 Five-Year Implementation Plan address this objective, including:

- Bay Area Wetlands Planning and Monitoring.
- Inclusion of wetlands in the Basin Plan.
- Providing technical assistance to local governments.

c) Work with IACC agencies, whose activities affect the health or function of wetland/riparian areas, to develop agency specific wetland/riparian protection policies, and to assist in the exercise of their authority to implement those policies.

Despite the wide recognition of wetlands’ ability to improve water quality and provide crucial habitats to organisms, the approaches adopted by various agencies for their protection are inconsistent at best. For example, not all RWQCBs have assigned beneficial uses for wetlands. Agencies need to develop consistent policies to avoid regulatory conflicts. In addition, at these times of severe budget shortages, the IACC needs to promote better coordination of wetland programs to leverage the limited resources for maximum benefits. This objective ties in to the Overall Five-Year Plan Objectives #1 and #4, and supports the NPS Program Plan Goal #3, “Coordinate with public and private partners in all aspects of the Program”.

A few activities listed in the 2003-2008 Five-Year Implementation Plan address this objective, including:

- Inclusion of wetlands in the Basin Plan.
- Development of compliance monitoring criteria for compensatory mitigation projects.
- Providing technical training to Regional Board and local agency staffs.

d) Develop/modify and enforce wetland restoration standards on all restoration and mitigation projects.

Consistent standards need to be developed for wetland/riparian restoration and mitigation projects. This is especially important in light of the fact that, according to studies, most mitigation projects have failed to achieve their established objectives, if there were ever undertaken at all. This objective ties in to the Overall Five-Year Plan Objective #1, and supports the NPS Program Plan Goals #1 and #5, “Track, monitor, assess, and report Program Activities” and “Implement Management Measures”.

Some of the activities listed in the 2003-2008 Five-Year Implementation Plan that address this objective include:

- Restoring and enhancing wetland and riparian resources through strict mitigation requirements.
- Developing compliance monitoring criteria for compensatory mitigation projects.
- Reviewing and monitoring of Baylands Wetlands projects.
- Developing assessment tool for wetland mitigation projects.

e) Develop and promote a consistent means of evaluating and guiding riparian and wetland projects.

A consistent means of evaluating and guiding riparian and wetland projects does not only make economic and regulatory sense, it leads to good public service. A unified approach to handling proposed wetland/riparian projects means different agencies can share information and not have to “reinvent the wheel”. It also reduces regulatory conflicts and helps to avoid putting the project applicants in the difficult position of having to satisfy multiple and sometimes contradictory mandates. This objective ties in to the Overall Five-Year Plan Objective #1, and supports the NPS Program Plan Goal #3, “Coordinate with public and private partners in all aspects of the Program”. Some of the activities listed in the 2003-2008 Five-Year Implementation Plan that address this objective include:

- Developing a technical assistance manual and CEQA Guidelines Appendix for project design.
- Developing management practice guidance.

f) Fund wetland/riparian restoration projects on a watershed basis, so that projects in the upper watershed are funded before projects in the lower watershed. Sections lower in a stream channel inevitably will become destabilized by the upper watershed problems if upper watershed/stream channels are not corrected first..

It is important to recognize that wetlands and riparian areas in the upper and lower parts of a watershed interact in more ways than one. Effective and long-lasting restoration can often be achieved only with a sensible prioritization of efforts. It ensures that the success of one project will not be undermined by the continuing failure of another. This objective supports the NPS Program Plan Goals #2, “Target Program activities” and #3, “Coordinate with public and private partners in all aspects of the Program”. Some of the activities listed in the 2003-2008 Five-Year Implementation Plan that address this objective include:

- Southern California Wetlands Recovery Project.
- Upper SCR Watershed *Arundo donax* eradication program.

g) Streamline the permitting process for wetland and riparian protection and restoration projects, including swift measures for invasive species eradication.

Streamlining the permitting process can provide good customer service as long as the environment is not compromised in the process. It can also be crucial to projects that are time-sensitive. For example, delays in issuing a permit for eradicating invasive species could mean the spread of the exotic organisms beyond control. This objective ties in to the Overall Five-Year Plan Objective #4, and supports the NPS Program Plan Goal #3, “Coordinate with public and private partners in all aspects of the Program”. Examples of activities listed in the 2003-2008 Five-Year Implementation Plan that address this objective include:

- Establishing interagency formal agreements.
- Coordinating with the National Park Service to develop effective permitting options.

h) Evaluate efficacy of VTSs for different categories of pollutants. Develop design criteria, standards, and guidelines.

Using VTSs to treat NPS pollution is an increasingly popular option. However, with their gaining popularity, regulators often have to make quick design decisions without the benefit of knowing if a selected VTS will truly satisfy the various demands placed on it. A comprehensive evaluation of VTSs needs to be conducted and design guidelines developed.

This objective ties in to the Overall Five-Year Plan Objective #1, and supports the NPS Program Plan Goals #3, “Coordinate with public and private partners in all aspects of the Program”, and #4, “Provide financial and technical assistance and education”.

An example of activities listed in the 2003-2008 Five-Year Implementation Plan that address this objective is:

- City of Los Angeles Augustus B. Hawkins Wetlands Habitat.

i) Develop public education and outreach materials for distinguishing between habitat wetlands and VTSSs, and detailing the regulatory maze and requirements for habitat wetlands and VTSSs.

The lack of clear distinctions between habitat wetlands and VTSSs can lead to the abandonment of VTSSs as a viable means of NPS control even if they are obviously the best available option. For example, without unambiguous guidelines, even a VTSS created strictly for the purpose of stormwater treatment could be prohibited from conducting the necessary maintenance to preserve its treatment functions because those activities might detract from the VTSS’ habitat values. The time has come to set habitat wetlands and VTSSs apart. This objective ties in to the Overall Five-Year Plan Objective #1, and supports the NPS Program Plan Goals #3, “Coordinate with public and private partners in all aspects of the Program”, and #4, “Provide financial and technical assistance and education”.

An example of activities listed in the 2003-2008 Five-Year Implementation Plan that address this objective is:

- Developing guidance on management practices including wetlands and VTSSs.

j) Develop educational planning workshops and/or outreach materials for locally elected officials, and landowners, managers, developers and operations whose activities present threats to wetland/riparian areas.

An effective way to protect wetlands and riparian areas is to make sure that all proposed developments minimize their impacts on these resources through sound site design, source control, and treatment control. Or, better yet, through visionary and comprehensive land use planning, developments can be steered away from wetlands and riparian areas. All these efforts require partnering with local stakeholders in the zoning and subdivision processes, and/or educating project proponents on the preferred management practices to reduce adverse effects. In addition, public and local government outreach allows for direct interactions between the regulators and regulated communities and, in the process, the development of a better understanding of each other. This objective ties in to the Overall Five-Year Plan Objective #1, and supports the NPS Program Plan Goals #3, “Coordinate with public and private partners in all aspects of the Program”, and #4, “Provide financial and technical assistance and education”.

Examples of activities listed in the 2003-2008 Five-Year Implementation Plan that address this objective include:

- Providing education and publications on conservation, restoration, and enhancement of wetlands and riparian areas.
- Developing technical assistance and training programs for project design.

k) Broaden partnership, coordination, and public participation in streambank and wetland monitoring and restoration projects.

Increased involvement of stakeholders in wetland projects enhances permitting expediency, reduces regulatory conflicts, minimizes resource wastes, develops a sense of public ownership, provides public education opportunities, and improves the acceptability of those projects to all parties involved. This objective ties in to the Overall Five-Year Plan Objectives #1 and #3, and supports the NPS Program Plan Goals #3, “Coordinate with public and private partners in all aspects of the Program”, and #4, “Provide financial and technical assistance and education”. Examples of activities listed in the 2003-2008 Five-Year Implementation Plan that address this objective include:

- Student urban and rural creek revegetation projects in Marina and Sonoma Counties.
- Participation in Bay Area Wetlands Planning and Monitoring Groups.
- Malibu Lagoon water quality and habitat enhancement project.

l) Protect, enhance, and restore the natural functions of stream channels, floodplains, and riparian corridors in order to protect water quality from nonpoint source pollution.

Several physical variables such as vegetated channel boundary, stream valley slopes, stream channel slopes and lengths, sediment loads, sediment sizes, discharges, roughness of the stream channel, and active channel widths and depths, need to exist in balance in order to preserve the stream/river system's beneficial functions, such as NPS pollution treatment. When the balance is disrupted, the streams are compelled to react and readjust, leading to excessive erosion or sedimentation, and thus exacerbating the NPS situation. The end results could be the smothering of benthic organisms, burying of fish-spawning areas, filling of downstream wetlands, introduction of exotic species, increases in water temperature, turbidity, nutrient loading, and biochemical oxygen demand, and a decrease in dissolved oxygen. Common channel destabilizing practices such as vegetation removal, channel widening and/or straightening, streambank armors, and channel grade control are often the primary culprits and need to be recognized and managed carefully. This objective ties in to the Overall Five-Year Plan Objective #1, and supports the NPS Program Plan Goals #2, “Target Program activities”, and #5, “Implement Management Measures”.

Examples of activities listed in the 2003-2008 Five-Year Implementation Plan that address this objective include:

- Establishing mitigation requirements and grant and loan project criteria for restoring and enhancing wetland and riparian resources.
- Creek revegetation in Marina and Sonoma Counties.
- Financial assistance for floodplain friendly management.
- Financial incentives to minimize channelization and channel hardening practices.